

Community Impact (use any categories that apply)

Neighborhood Notification – Every flood mitigation project includes a significant amount of coordination with the affected neighborhoods.

City Goals – The flood mitigation program meets the following goal of the City to preserve, enhance and create a sustainable natural and historic environment citywide.

Comprehensive Plan – Flood mitigation is not specifically mentioned in the Minneapolis Plan. However, flood mitigation projects do contribute indirectly to a number of other goals, including: 7.5) Protect and Sustain Water Resources; and 8.4) Build and maintain road related infrastructure.

Zoning Code – Not applicable.

Other

Background/Supporting Information:

Flood Mitigation Program Overview

During July of 1997, the City of Minneapolis experienced extreme rainfall events which overburdened the City's storm drain system and resulted in flood damages in several areas of the City. When the City's storm drains were originally designed, only minor rainfall events were considered and no analysis was conducted on potential ponding areas. The current industry standard is to design a storm sewer system to protect buildings from a 100-year rainfall event.

In 1997, the Public Works Engineering Services Division examined 39 separate areas of the City that had been the source of numerous flooding complaints. Of the 39 areas examined, 23 were determined to have storm drains that were inadequate for protecting the adjacent properties from flooding during a 100-year rainfall event. (The remaining 16 areas studied were determined to have solutions that could be carried out by Sewer Maintenance staff or drainage issues that were the responsibility of the property owners.)

In November 1997, the Minneapolis City Council adopted the nine-year flood mitigation program aimed at solving ongoing street and structure flooding caused by undersized storm drains. The specific goal that Public Works has been working towards is to provide an equal level of flood protection to all areas of the City.

The approved program included:

- The construction of 6 stormwater retention basins (or ponds) plus 18 major storm drain construction projects for a total of 24 construction projects.
- 22 of the projects were established to solve the flooding problems in the 23 problem areas analyzed in the 1997 Flood Report (29 and 30 were combined into one project).
- 2 flood control projects included within the program had been identified prior to the completion of the 1997 Flood Report.

Flood Mitigation Financial Estimates

Original Program

Originally, the program was budgeted at \$57 million over nine-years (1998 through 2006) using Sewer Fund revenues. Since that time, the City Council has approved scope changes and added two projects (Flood Area 43 Miscellaneous Alley Flooding Citywide, and Flood Area 46 Miscellaneous Intersection Flooding Citywide) for funding in 2006, increasing the total funding to \$73,529,329.

The original 1997 Flood Mitigation Program developed estimates based on 1997 dollars. Using the standard inflationary rate provided by the McGraw-Hill Construction Cost Index of 2.4%, the increases in cost due to inflation is estimated at \$9,257,336 by 2002.

In 1997, Public Works staff compiled flooding complaints, conducted a preliminary hydraulic analysis, and developed preliminary cost estimates. More detailed analysis has been conducted as flood mitigation projects reach their targeted construction year. The more detailed analyses have determined that several of the proposed solutions and cost estimates for the flood projects are inadequate. While some projects have come in under original estimates, many are more costly.

The current estimated cost of the original program now stands at \$86,299,329 in 2002 dollars. This is an increase of \$12,770,000 over the previously budgeted \$73,529,329 program. Given the preceding information on inflation, it can be formulated that \$9,257,336 is due to inflation and the remaining \$3,512,664 in increased cost is due to changed project scope.

Additional Flood Mitigation Project Areas

In addition to the original 39 project areas, the rainfall events that have occurred since 1997 have resulted in many new complaints not included within the original 1997 Flood Mitigation Program. Engineering Services has completed preliminary studies for all of these additional complaint areas and have identified 15 areas with inadequate drainage systems by today's standards. These 15 potential projects represent problem areas that are caused by inadequate city owned storm drains and should be solved through the upgrading of these city owned facilities. These areas should be upgraded to match the design standard of the projects that have been and will continue to be constructed with the original Flood Mitigation Program.

It is estimated that the cost associated with improving the storm drain infrastructure within the 15 additional areas will be \$39,322,500 in 2002 dollars. Based on current sewer rates and competing programs, funding for these projects will be unavailable until 2010. Staff recommends that these 15 additional areas be further analyzed as staff time allows and that the construction of these projects be delayed until after the completion of the original 1997 Flood Mitigation program.

As part of submitting Flood Mitigation Projects to CLIC beginning in 2003, Public Works will continue to work with Finance staff to develop a long-term funding strategy for the current Flood Mitigation Program as revised as well as options to incorporate the additional 15 areas mentioned above. CLIC will then evaluate the options and make their recommendation on what projects to include and what sewer rates they are willing to recommend to the Mayor and City Council as part of the 2004-2008 Capital Plan. Preliminary indications are that moderate rate increases could be made if the expanded program is spread out over a longer duration.

Recommendation A: 2002 Capital Budget Changes In 2002, changes are needed to move current appropriations within the existing funded projects. Additional funds are not needed. Some projects funded for 2002 were not able to be completed and other projects required additional funding. See Attachment A – 2002/2003 Flood Mitigation Appropriation Adjustments to the Capital Program for details.

Recommendation B: Submit Flood Mitigation Projects as part of the CLIC Process

Currently, capital budget request forms are not prepared and updated for projects in the Flood Mitigation Program. CLIC has incorporated the original program into its rate setting function, but does not have an objective way to evaluate existing proposals or add new projects. Formalizing CLIC's role in flood mitigation projects would allow for the discussion and prioritization of the flood mitigation program as it relates to other City interests. The capital budget process will include all forecasted projects and their affect on sewer rates and will also provide an opportunity to adjust the funding of each project as more information is learned about project scope.

Attachment A - 2002/2003 Flood Mitigation Appropriation Adjustments